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SUCCESS STORY

SOWING SEEDS OF HOPE

Resource conservation farming techniques improve yield and reduce costs



[Photo: Alka Gupta/USAID]

Raj Mangal and his wife look forward to a good wheat harvest this season

“I will have a good crop. The wheat speaks for itself. Earlier I used to get five shoots for each plant. This time there are 10-12 shoots for each.”

- Raj Mangal, sharecropper

Raj Mangal, a sharecropper in the northern Indian state of Uttar Pradesh, is waiting and watching. As his wheat crop slowly turns golden, his hopes for a better crop and an increase in his income are finally being realized.

With eight family members to support and 50 percent of his produce going to the landowner, Mangal knew that the only way to increase his meager income was to increase the yields from his farming.

However, years of intensive plowing and burning had led to a decline in soil fertility and to stagnation in his agriculture productivity. Mangal wanted to be a better farmer but he didn't have access to information on modern farming techniques or technologies that could help him.

That is, until USAID, through its Partnership for Innovation and Knowledge in Agriculture (PIKA) program introduced “Zero-Till,” a technology that allows farmers to plant seeds without first tilling the land. With Zero-Till, farmers leave organic material from the previous crop on the field to form a mulch cover that helps the soil retain water and valuable nutrients, which conserves resources and increases yields. Farmers then use a Zero-Till machine to plant seeds deep into the crop residue. This innovation eliminates plowing, reduces the need for irrigation, seeds, and fertilizer, and improves farm yields.

The PIKA project set up demonstration plots in select districts that quickly convinced more than 8,000 local farmers in Uttar Pradesh to adopt Zero-Till. PIKA provided information on the technique and purchased seeding machines for farmers to rent at minimal cost from village groups, which now maintain the machines and provide support to farmers.

“I saw that the seed is placed deep into the soil and knew that the plant would have deep roots and would not fall down. The fertilizer is placed with the seed and gives it strength,” explains Uma Shankar Awasthi, another farmer who has enthusiastically adopted Zero-Till.

This simple technology has resulted in an average cost reduction of Rs 5,000 or about \$112 per acre through savings in energy and water use and the need for fewer seeds and less fertilizer. Sowing seeds without plowing the land would have once been unthinkable for these farmers. But by doing the unthinkable, they are improving their incomes and producing more food with fewer resources.